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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: 28 SEP 1989

SUBJECT: Action Memorandum - Removal Request for Underwater Drum Removal from Mississippi River, off Quincy, Illinois (Site ID #GP)

FROM: Walter F. Nied, On-Scene Coordinator
Emergency and Enforcement Response Branch - Section II

TO: Mary A. Gade, Associate Division Director
Office of Superfund

THRU: Robert J. Bowden, Chief
Emergency and Enforcement Response Branch

PURPOSE

The purpose of this memorandum is to obtain your approval to expend up to $205,986 to mitigate threats to public health and the environment stemming from drums of hazardous materials in the Mississippi River off- shore of Quincy, Illinois. The proposed response action seeks to abate potential exposure by removing the drums in compliance with the U.S. EPA's Contaminated Underwater Operations Protocol.

The project will require an estimated nine (9) working days to complete. This site is not on the National Priorities List (NPL).

BACKGROUND

On Sunday, August 13, 1989, a commercial diver who was collecting mussels came into contact with three (3) 55-gallon drums at the bottom of the Mississippi River in 37 to 39 feet of water just off the north end of the Moorman Bean south barge dock. Upon surfacing, the diver experienced a burning sensation on his arms and neck, areas not protected by his wet suit. On August 14, 1989, Dr. Brolinson, a local physician, diagnosed these burns as chemical burns caused by the release of caustic or acidic chemicals.

Subsequently, the Department of Conservation conducted a sonar survey of the East Mississippi River from River Mile (RM) 327 south to approximately RM 326 (Quincy Memorial Highway Bridge South for 1 mile). A Department of Conservation representative identified what appeared to be 12 drum-sized and -shaped objects.

As a result of our public request for any information concerning the contents of the drums, two individuals have stated that drums were washed into the river during a flood in 1986. The individuals identified the contents of the drums as including methyl ethyl ketone (MEK) and trichloroethylene (TCE), which are listed as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). An anonymous caller stated that a third party had dumped drums containing acidic plating waste in the vicinity .

From August 22 through August 24, 1989, representatives of the United States Environmental Protection Agency (U.S. EPA) Region V and members of the Environmental Response Teams (ERT) conducted an underwater investigation to determine if an ongoing release of hazardous substances was occurring. Dr. David Charters of ERT flew out from Edison, New Jersey, with an underwater Remote Operated Vehicle, proton magnetometer, and other sophisticated underwater sampling equipment. Unfortunately, because of the strong current and mechanical problems, we were not successful in videotaping the drums reported on the bottom of the Mississippi River. Our field sampling equipment did not confirm an ongoing release immediately downstream of the drums disturbed by the diver ten days previous.

THREATS

The documented conditions at the Mississippi Drum site that meet the criteria for a removal action as stated in the National Contingency Plan, Section 300.65(b)(2), are as follows:

1) Actual or potential exposure to hazardous substances or pollutants or contaminants by nearby populations, animals, or food chain.

As stated above, a commercial diver was exposed to the contents of drums, resulting in burns to the exposed areas of his body. The burns were diagnosed as chemical burns by a physician.

The Mississippi River is utilized by commercial fisherman as well as local fisherman as a source of food for human consumption. This food supply is threatened by the presence of the drums of TCE, MEK, and acidic plating waste.

Acidic materials such as sulfuric acid, chromic acid and nitric acid are typical corrosive materials used in electroplating operations. These corrosive materials cause irritant effects to the eyes, skin, and respiratory passages and can lead to ulceration.

Exposure to TCE may cause irritation of the eyes, nose and throat. Repeated or prolonged skin contact with the liquid may cause dermatitis. TCE is acutely toxic to fresh water aquatic life at 45 parts per million (ppm).

2) Actual or potential contamination of drinking water supplies or sensitive ecosystems;

Water from the Mississippi River is used by several municipalities as a potable water supply. This municipal water supply is threatened by the persistent presence of the aforementioned contaminants in the river.

Ingestion of corrosive materials can result in serious burns to the mouth, esophagus, or stomach. To protect human health, exposure to TCE in drinking water should be zero. Concentrations of 27 micrograms per liter will increase the risk of cancer.

ENFORCEMENT

See confidential information in Attachment I.

PROPOSED PROJECT AND COST

The proposed action is to locate and overpack 14 drums located in 37 feet of water at the bottom of the Mississippi River. Divers will overpack the drums underwater to limit the release of contaminants into the river. The drums will be staged on-shore for eventual disposal at an incineration facility. This mitigative action is designed to reduce the threat posed by the drums to human health and the environment.

It is estimated that the removal action will require nine 8-hour on-site working days, with several additional days required for mobilization and demobilization of the diving equipment. The detailed clean-up contractor costs are presented in Attachment II, and estimated project costs are summarized below:

EXTRAMURAL COSTS:

Contractor Personnel	$ 16,748
Unit Rate Materials	1,768
At Cost Materials	2,067
Subcontractors	111,582
Waste Transportation	811
Waste Disposal	5,705
Cleanup Contractor (ERCS)	138,682
Contingency (15%)	20,802
Subtotal	159,484
TAT/TES	12,330
Extramural Subtotal	171,814
Extramural Contingency (15%)	25,772
Total Extramural Cost:	$ 197,586

INTRAMURAL COSTS

U.S. EPA Direct Cost [$30 x (100 Regional hrs + 10 HQ hrs)]	3,300
U.S. EPA Indirect Costs ($51 x 100 Regional hrs)	5,100
Total Intramural Cost:	$ 8,400
Project Total	$ 205,986

RECOMMENDATION

Because of the conditions at the Mississippi Drum site near Quincy, Illinois, meet the criteria for a removal action as specified in Section 300.65 of the National Contingency Plan, your approval of this request is recommended. With your approval, the project ceiling will be $205,986, of which up to $185,256 ($138,682, plus $20,802, plus up to $25,772 of the extramural contingency) may be used for extramural cleanup contractor costs. You may indicate your decision by signing below.

APPROVE: _____ DATE: 9/28/89
ASSOCIATE DIVISION DIRECTOR

DISAPPROVE: _____ DATE: _____
ASSOCIATE DIVISION DIRECTOR

bcc: D. Ouderkirk, OS-210
M. Elam/S. Hersh, 5CS-TUB-3
R. Jones, 5HS-10
R. Powers/R. Buckley, 5HS-GI
R. Bowden, 5HS-11
P. Schafer, 5HS-11
N. Nied, 5HS-11
R. Mancos, 5HS-11
L. Fabinski, ATSDR, 5HS-10
O. Warnsley, RP/CRU, 5HS-12
T. Lesser, 5PA-14
A. Anderson, 5MA-14
EERB Read File
EERB Delivery ORder File
EERB Site File

ATTACHMENT I

CONFIDENTIAL ENFORCEMENT INFORMATION

Redacted-Information not relevant to selection of removal action.